(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
21 March 2002 (21.03.2002)

PCT

(10) International Publication Number
WO 02/23960 A1

(51) International Patent Classification[7]: H05H 1/24, B23K 10/00

(21) International Application Number: PCT/US01/42079

(22) International Filing Date:
6 September 2001 (06.09.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
09/660,003 12 September 2000 (12.09.2000) US

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(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

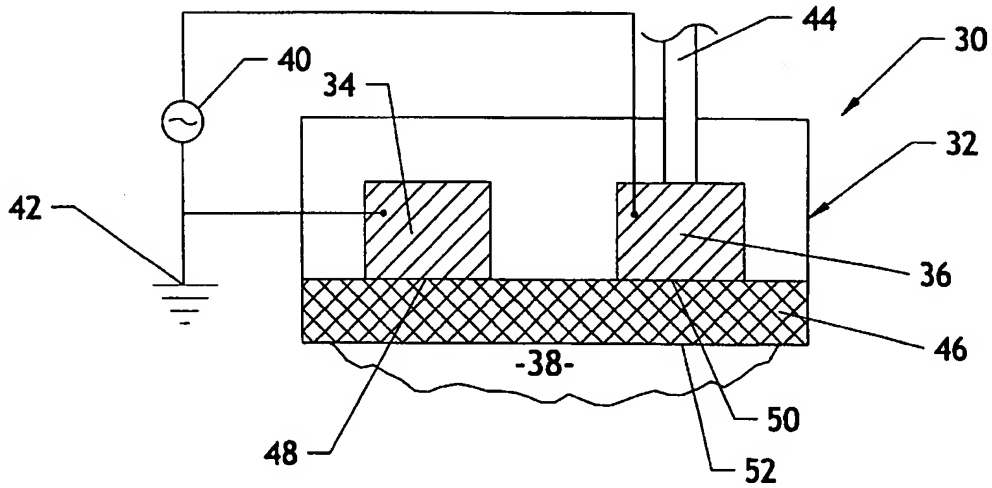
**Declarations under Rule 4.17:**

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for all designations*

— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations*

*[Continued on next page]*

(54) Title: ELECTRODE FOR GLOW-DISCHARGE ATMOSPHERIC PLASMA TREATMENT




(57) Abstract: A porous metallic layer (46) is incorporated in one of the electrodes (36) of a plasma treatment system. A plasma gas is injected into the electrode at substantially atmospheric pressure and allowed to diffuse through the porous layer (46), thereby forming a uniform glow-discharge plasma. The film material (54) to be treated is exposed to the plasma created between this electrode and a second electrode (34) covered by a dielectric layer. A steady-state glow-discharge plasma is produced at atmospheric pressure and at power frequencies as low a 60 Hz. According to another aspect of the invention, vapor deposition is carried out in combination with plasma treatment by vaporizing a substance of interest, mixing it with the plasma gas, and diffusing the mixture through the porous electrode.

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